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PENICILLIN THERAPY*

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Within the past two years numerous clinical reports have established the effectiveness of penicillin in the treatment of certain bacterial infections. To obtain maximum success with this new chemotherapeutic agent it is essential to recognize certain basic considerations. In the time allotted for this paper we will discuss some of the more important factors regarding the indications for treatment, dosage, and technics of administration of penicillin.

Indications. At the present time the use of penicillin is modified by limitations of supply, cost, and tedious methods of administration. Because of its potency and greater range of effect, when compared with the sulfonamides, certain types of bacterial infections demand the immediate use of this drug. Most prominent of these are the staphylococcal disease in which the sulfonamides have unquestionably reduced morbidity and mortality but have not adequately satisfied the need for specific therapy. With penicillin it has been possible to lower the mortality in staphylococcemia, from approximately 85 per cent in untreated cases and 70 per cent in sulfonamide-treated cases, to less than 20 per cent. Dissemination of infection in acute osteomyelitis has been promptly controlled. Sequestrectomy in chronic osteomyelitis has been made less hazardous and postoperative results more uniformly successful. While only an occasional patient with staphylococcal cavernous sinus thrombosis recovered with the sulfonamides, penicillin therapy in the few cases treated has been unusually successful. Carbuncles, furuncles, lung, brain and mediastinal abscesses, palmar space, tendon sheath and wound infections have shown dramatic response, often with subsidence of the lesion, making surgical drainage unnecessary.

Penicillin is a more potent inhibitor of streptococcus hemolyticus than the sulfonamides, and should be used in all cases of streptococcemia and serious local infections by this organism. It is not likely that penicillin will entirely replace the sulfonamides in streptococcal diseases but will serve as an efficient alternative chemotherapeutic agent.

There has been considerable controversy concerning the value of penicillin in the treatment of subacute bacterial endocarditis. Although very few patients have been treated, and the adequacy of a course of therapy has not yet been established, it appears that these patients almost uniformly improve and many of them no longer require hospitalization.

All types of anaerobic streptococcal infections, such as puerperal sepsis, empyema, and peritonitis (when this organism is a dominant pathogen) deserve penicillin treatment. These cases do not usually respond with the same rapidity as seen in B. hemolytic streptococcal infections, but penicillin is more effective than the sulfonamides.

Because of the excellent results, low cost, and ease of administration of the sulfonamides in pneumococcal pneumonia, meningococcal meningitis, and gonorrhea it is not expected that penicillin will supplant them. While response may be more prompt with penicillin, the difference in time is of little value if the technical difficulties of penicillin therapy and the patient's comfort, are considered. Penicillin is particularly indicated in all such cases that demonstrate sulfonamide resistance, and for those *in extremis*. It is the drug of choice in pneumococcal meningitis, empyema, endocarditis and pericarditis. Gonococcal and menigococcal arthritis, ophthalmitis, endocarditis, pericarditis and peritonitis usually respond more promptly to penicillin therapy. Although the evidence is incomplete, it appears that penicillin is the

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most effective agent available for the treatment of syphilis and actinomycosis.

Contra-indications. Penicillin is not indicated in the gram negative bacillary infections, such as typhoid, para-typhoid, undulant fever, tularemia, dysentery, and infections produced by H. influenzae, B. proteus, B. pyocyaneus, B. Friedlander, and organisms of the coli-aerogenes group. It is of no value in ulcerative colitis, tuberculosis, rheumatic fever, Hodgkins disease, virus diseases, blood dyscrasias, parasitic infestations, including those caused by simple cell forms, and all fungus, yeast, blastomycotic and neoplastic diseases.

Dosage: Systemic. Since supplies of penicillin have been limited, emphasis has been placed on minimal rather than optimal requirements. As supplies increase, larger doses of the drug will probably be used, since it is relatively non-toxic. The range of daily dosage recommended by investigators varies between 30,000 and 400,000 units daily. For over a year we have followed a simplified dose schedule and found it adequate in the treatment of many infections under highly diversified conditions. All patients requiring systemic therapy are given 100,000 units per day, except those with acute or subacute bacterial endocarditis. They receive either 200,000 units or 300,000 units each day. For routine cases, with the exception of gonorrhea in the male, this daily dose is repeated for three to seven days after there has been an adequate clinical response and the temperature has reached normal. In gonorrhea one or two days of treatment is usually sufficient and is in excess of most recommendations. As to the route of administration, it is our impression that 100,000 units, given by continuous intravenous infusion is equally as effective as 200,000 units given by intramuscular injection. Therefore, all patients with bacteremia or severe infections receive a continuous intravenous infusion of 100,000 units per day. If, after forty-eight hours, there has been no response, the dose may be increased to 150,000 units per day. This is not usually necessary. As soon as the infection is brought under control, intravenous therapy is discontinued and intramuscular injections are given every two or three hours, depending upon the requirements of the case, in amounts sufficient to make up similar total dosage. If a patient receiving intramuscular therapy does not respond adequately, we then resort to the intravenous route. Under this program we have really found it necessary to exceed the basic dose of 100,000 units per day. The cases most likely to require larger doses, other than those with endocarditis, are staphylococcal bacteremias, clostridial infections, chronic osteomyelitis and puerperal sepsis.

Dosage for children and small adults has been based largely upon the nature of the infection. We have seldom used less than 50,000 units per day, even for infants.

Dosage: Local Application. In cases in which we have employed penicillin locally, the following dosages have generally been employed:

Topical Application. 250 to 500 units of penicillin per cubic centimeter of saline.

Empyema. 20,000 to 40,000 units daily after thoracentesis.

Meningitis. 10,000 units intracisternally or intrathecally daily.

Arthritis. 5,000 to 10,000 units after joint aspiration each day.

Preparation for Administration. Regardless of dosage or the route of administration, a fresh solution of penicillin in normal salt solution or pyrogen-free distilled water should be made up daily and kept under refrigeration on the ward or floor. It is then possible to write orders for the drug in terms of cubic centimeters, rather than units, which is confusing when the material is in solution. It is advised that each hospital should establish a fixed dilution for 100,000 units. The commonly recommended dilution is 20 cubic centimeters. Each cubic centimeter then contains 5,000 units. We have found it more convenient to dissolve the 100,000 units in 24 cubic centimeters of saline or distilled water so that one cubic centimeter contains approximately 4,000 units. This dilution has the advantage of avoiding cubic centimeter fractions when writing orders, permits division to fit any arrangement of administration, keeps the daily dosage in round figures or 50,000, 100,000, 150,000 units, etc., and with the recommended 100,000 units per day each ampoule constitutes one day's therapy.

Since penicillin is ineffective against the gram negative bacilli and many of the airborne molds, its preparation and storage in aqueous solutions must be under strictly sterile conditions. We have found molds, E. coli, and B. pyocyaneus growing in penicillin solutions. Some type of rubber capped vial should always be used to avoid contamination and permit a simple closed system of withdrawal in loading syringes.

Oral Administration. If penicillin is administered by mouth, the active principle is destroyed by the hydrochloric acid in the stomach. Attempts to neutralize the acidity have not been sufficiently effective to consider this a potential route of administration. If the drug is given into the duodenum, by way of a duodenal catheter, its absorption is incomplete and inconstant. If given per rectum, the active principle is destroyed by the penicillinase produced by gram negative bacilli. Therefore, the parenteral routes have proved to be most satisfactory.

Intravenous Route. A single intravenous injection of penicillin results in a high initial concentration in the blood plasma which falls abruptly, and, regardless of dosage (100,000 to 40,000 units), is no longer detectable in the blood after three or four hours. This fall is associated with rapid urinary excretion. Therefore, the interval between intermittent intravenous injections should not exceed three hours. It is considerably more practical to give the drug in dilute solution by continuous intravenous infusion which maintains a constant therapeutic level in the circulating blood. This method of administration presents certain disadvantages which include the technical difficulty of keeping the infusion running, the discomfort of the patient, and the frequent occurrence of superficial venous thrombosis, which commonly follows any sustained continuous infusion. It is still questionable whether or not penicillin actually plays a part in producing this reaction. Alternating isotonic solutions of physiological saline and 5 per cent glucose in distilled water have been used with considerable success. The importance of intravenous technique must not be underestimated. A large needle, 18 to 20 gauge, 1.5 to 2 inches long, inserted into the vein up to the hub gives the best results. No vein should be used more than twenty-four hours. At the end of a day's treatment the needle should be removed and a fresh sterile infusion apparatus, preferably of the closed type, set up and a new venepuncture done, if possible, in another extremity. The volume of fluid should depend upon the amount the patient can easily tolerate. For most adults, 3,000 cubic centimeters of fluid daily is suitable with one-third the daily dose of penicillin added to each liter. One liter dripping at the rate of 33 to 38 drops per minute should run about eight hours. A rough indication of the amount of fluid that is infused in twenty-four hours by our own apparatus has been obtained by counting the number of drops, subtracting five and multiplying by 100. If intravenous therapy is indicated and veins are not available for venepuncture or cannulization, bone marrow infusions into the sternum or tibia may be used.

Intramuscular Route. Following an intramuscular injection of penicillin, the peak of plasma concentration is not reached as quickly nor does it attain the same height as with an equal intravenous injection. At the end of three to four hours the drug is no longer detectable in the plasma and is excreted in the urine over a period of several hours. These findings necessitate intramuscular injection six to twelve times each day, the time interval being adjusted to the requirements of the individual case. Injections should be rotated between the larger muscle masses such as the gluteal, deltoid and thigh regions to avoid continued local trauma. Twenty to twenty-two gauge needles, 1.5 to 2.5 inches in length, depending upon the thickness of the subcutaneous fat, have proved to be satisfactory. The intramuscular route is most suitable for acutely ill children and adults who cannot tolerate the amount of fluid necessary to keep a continuous intravenous infusion running. It is indicated for all types of less acute and chronic infections, and for patients who have improved sufficiently no longer to require a continuous intravenous infusion of the drug.

An intramuscular injection of penicillin should be no more painful than the needle prick. Complaints of discomfort warrant investigation. Some patients find that a change

in the diluent from normal saline to distilled water or distilled water to saline will give relief. The subcutaneous injection of penicillin solutions is usually more uncomfortable than intramuscular injection. Special care and nursing instruction in this type of administration is often required. Piercing or injecting nerves may cause pain. In children and emaciated adults the drug may be injected beneath the peristeum, which is usually uncomfortable. Repeated injections in one place or in other areas of localized trauma is often painful. For any type of intramuscular therapy, syringes and needles should be sterilized by autoclaving or boiling and used dry. Painful reactions often occur if alcohol or other chemicals are used for sterilization. The volume of fluid injected may produce pain upon distending the tissues. In these cases the use of a more concentrated solution is likely to result in greater comfort.

It has been found, on the other hand, that certain brands of penicillin are irritating after intramuscular injection and produce real discomfort, varying from a mild burning or stinging sensation to an acute agonizing boring pain, which may last as long as one hour. If other measures fail it may be necessary to resort to dilution of the penicillin powder in an 0.5 or 1.0 per cent procaine solution. This will usually relieve pain but the danger of giving the material intravenously forbids its use except in specific cases. These solutions should always be labeled "Not for intravenous use," and attending personnel should be warned not to inject the material into a blood vessel. Procaine does not alter the efficiency of penicillin.

Local Route. Penicillin administered intravenously is not present in detectable or therapeutically significant amounts in spinal fluid, saliva, tears, the humors of the eye, pleural fluid, peritoneal fluid, and synovial fluid. None of these fluids affect the potency of the drug and if it is injected into these fluid-containing spaces it tends to disappear slowly. Thus, it appears that penicillin does not readily pass through definitive cellular membranes. The fact that it is concentrated in the bile indicates that it is excreted by the liver as well as the kidney.

Because of these features of absorption and distribution it is desirable to inject penicillin locally into infected cavities, whether of anatomical or pathological nature.

Topical Application: Powder. Dry penicillin is irritating and may produce pain if applied to a raw surface, however, it has been used successfully when diluted with sulfanilamide or sulfathiazole powder (500 to 5,000 units per gram).

Topical Application: Solution. Saline solutions containing 250 to 500 units of penicillin per cubic centimeter have been used in eye and wound infections produced by bacterial cocci and clostridia. For the treatment of superficial eye infections, one to three drops of a fresh solution into the conjunctival sac every one or two hours is usually effective. Infection within the chambers of the eye requires iontophoresis. Wound infections require constant therapy. This may be achieved by applying wet dressings. It has been found that if these dressings are covered with some impervious material, such as cellophane, oil silk, or rubber sheeting, they will retain their moisture longer and permit more infrequent wetting or redressing of wounds. Infected wounds of toes or fingers, hands or feet may be immersed in penicillin solutions at frequent intervals. In deep wounds, a slow continuous drip or frequent injections through small catheters or Dakin's tubes, placed in sinus tracts or recesses, has been used most effectively. However, these penicillin solutions should not be used as irritants since the drug requires six to eight hours of contact with the organism in order to obtain the desired effect.

Topical Application: Ointment. The usefulness of a penicillin ointment is obvious but as yet no base has been developed which has all of the desired properties. British workers have found useful in superficial infections a Lannette-Wax ointment, containing 250 units of penicillin per gram.

Local Injection: Meningitis. Since penicillin administered by parenteral routes is not present in detectable amounts in cerebrospinal fluid, it is recommended that it be given by intracisternal or intrathecal injections, in conjunction with systemic therapy. The penicillin may be diluted in spinal fluid or physiological saline, the volume not exceed-

ing the amount of fluid removed and preferably 10.0 cubic centimeters or less. The intracisternal route appears to be the most efficacious in the treatment of pneumococcal, streptococcal, and staphylococcal meningitis. These injections should be given daily and continued until three days after the fluid has become sterile and clear. Penicillin is rather slowly eliminated from this relatively closed system of fluid and remains in therapeutic concentrations for at least twenty-four hours. Other than an occasional pleocytosis, no harmful effects have been noted. In the event that this reaction does occur, it is wise to use a more dilute solution.

Local Injection: Empyema. Penicillin given parenterally is not effective in empyema. These collections of pus become firmly walled off by the inflamed pleura and constitute a residual localized infection which necessitates local therapy. The pus in these cavities should be drained as completely as possible by needle aspiration and then an injection of a penicillin solution containing 20,000 or 30,000 units made through the same needle. This should be repeated daily for at least seven days, even though it is no longer possible to obtain large volumes of pus. The success of this method in curing empyemata depends to a considerable extent upon the diligence of those performing the thoracenteses.

Local Injection: Suppurative Arthritis. The technics and methods are the same as for empyema, except a smaller dose of penicillin is required.

Local Injection: Carbuncles and Furuncles. Penicillin may be injected into a localized abscess cavity. If possible, it is best to first aspirate the pus. Caution should be observed to treat only fluctuant lesions, since it is possible to spread infection by the purely mechanical means of distending firm areas of cellulitis.

Reactions. One of the most interesting features of penicillin is its relative lack of toxicity. This is of particular interest today, since the sulfonamides have shown such a high incidence of toxic manifestations. Systemic reactions occur more and more infrequently with penicillin as the purity of the drug is increased.

Chills and Fever. Occasionally a patient receiving penicillin will have a sudden rise in temperature associated with a chilly sensation or an actual shaking chill. This reaction may be caused by the infection under treatment, it may be evidence of gram negative bacillary infection, or may result from a contaminated penicillin solution. In any event, it is wise to culture the penicillin solution for gram negative bacilli or molds. If the reaction is due to penicillin, therapy should not necessarily be discontinued, though it is probably wise to make up a fresh solution.

Urticaria. As experience continues fewer and fewer cases show this type of reaction. It may appear at any time after therapy is begun and may be trivial or most uncomfortable. Apparently no permanent sensitivity is produced, since precipitin and heterophile agglutinin tests are not significantly positive. It is unnecessary to discontinue therapy, except in a rare case, for the eruption will usually subside while the treatment is continued.

Supportive Care. Penicillin is a chemotherapeutic agent which in concentrations obtainable *in vivo* is only capable of inhibiting certain pathogenic bacteria. Thus, the limitations of the drug are clearly defined and adequate supportive therapy remains an essential feature of management and should include surgical intervention if and when indicated.

Discussion: Dr. G. J. Boines (Wilmington): One thing that I am not impressed with is giving penicillin intraspinally. The spine has been used before and a great deal of irritation has resulted. Dr. Flippin admits penicillin will irritate the veins. Will it not irritate when given intraspinally? How much penicillin is necessary in the spinal fluid and cannot the same effect be given by giving it intravenously? It is not safe to give it intraspinally unless absolutely necessary because of the harm that can be done.

Dr. Flippin: In our experience the intracisternal route has given the best results in the treatment of pneumococcal meningitis. Certainly, we should use penicillin locally in cases of pneumococcal, streptococcal, and staphylococcal meningitis.

TREATMENT OF LOW BACK STRAIN

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INTRODUCTION

The unorthodox character of low back pain has been the cause of much discussion and debate as to how the problem should be approached. There are usually a multiplicity of complaints, complications such as arthritis and old injuries, and an unlimited number of other causes for the discomfort. The poles of opinion as to the treatment of low back strain are sufficiently far apart to render this condition one of the most difficult as well as one of the most frequent problems that confront an orthopaedic surgeon and I feel that the subject warrants an open discussion.

Industry has become more highly specialized during the past three or four years and the necessity for the stabilization of man-hours has become more important. Manufacturing, both heavy and light, has suffered an embarrassing drain on its man power from loss of time as the result of their absence from work due to back injuries. In spite of safety education workmen will assume positions of potential strain which sooner or later lead to injuries requiring treatment.

Back injury is not confined to industry alone but the same principle of a faulty posture assumed while performing heavy work still applies. We must include in our discussion the accidental strains such as those sustained by the business man who hurts his back doing chores which he has been in the habit of delegating to the almost obsolete handy man.

If there was not uncertainty of the underlying cause of low back strain and if this pain was due to one or two specific conditions then there would be no variation of opinion as to the proper way to treat the condition. Opinions as to treatment vary from the most conservative to the most radical, with other procedures in between, which are more or less modified. But no matter what type of treatment is selected, the object of the surgeon is to return the patient to work in a healthy condition as quickly as possible.

The examination of a patient with a back strain is extremely important. Unless one uses a routine method of investigation which must include all possible causes for back strain, some important information which may influence the treatment of the patient may be overlooked. A careful and painstaking history must come first. Minor details may become very important. In determining the duration of the back strain it is well to include not only the date but also the hour of onset. A careful analysis of how the injury occurred will help the investigator to form a better mental picture of the accident. One must know whether the pain came on suddenly or gradually. It is important to determine whether or not the condition is becoming worse or is gradually getting better. A fairly comprehensive outline of treatment rendered prior to the time of consultation is of value.

Oftentimes the situation of the pain will fairly well fix the site of the causative lesion. The situation of the referred pain may be very helpful. For example, in a lumbo-sacral strain the pain is usually referred to the calf and the foot while in the sacro-iliac joint cases the pain may be felt in the posterior aspect of the thigh, the sciatic notch and all down the lower extremity.

The duration of the back ache will determine whether the pain is acute or chronic.

If the backache has been caused by an accident one must determine whether or not the injury was a direct blow or twist. Unilateral strain through the hamstrings is apt to cause a sacro-iliac lesion, while trauma applied from above is more apt to be a lumbo-sacral type of pain. Exposure to cold may be a contributing factor.

Pain is an important factor. In general there are four types of pain which may prove to be semi-diagnostic.

First, pain relieved by rest, or so-called static pain. Pain brought on by activity is usually caused by mechanical faults such as foot strain, spondilolysthesis, etc.

Second, pain occurring after resting. These cases are usually caused by an inflammatory type of lesion.

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Third, night pain such as may be caused by spinal cord tumors and lesions of an intervertebral disc.

Fourth, constant pain is usually caused by malignancy or in some instances by an intervertebral disc or by tuberculosis.

Just to emphasize, it is necessary to know whether or not the pain is present while lying down. If relieved by rest in bed one should suspect some foot disorder. If the pain is made worse by exercise we shall have to rule out malignancy and tuberculosis, as well as foot strain.

Acute sacro-iliac strain is aggravated by coughing, sneezing and straining at stool.

If the pain is worse upon arising in the morning we must think of a chronic back strain.

If there is generalized stiffness of considerable duration arthritis must be ruled out.

There are accompanying complaints which may add to the back discomfort. Foot strain is a very common cause of low back strain. The proper support of the foot is very important.

If there are genito-urinary symptoms it is well to request suitable consultation.

During the physical examination the patient should be undressed and properly gowned. His general development should be noted, for much knowledge can be gained by observing *how* the patient stands. Guarded movements may be an important sign-post. Often times assumed deformities may represent true or malingering conditions. Attention should be given to any abnormality in the patient's gait.

The motions of the spines are important. An attempt should be made to put the back through the normal arcs of motion. Most patients, unless hindered by excessive fat, are able to bend over and touch the floor with their finger tips while they hold their knees stiff. Lateral motion usually has a range of forty degrees to forty-five degrees from the perpendicular. Backward motion is variable.

Muscle spasm should be carefully noted and the site recorded.

Listing of the pelvis may be commonly present in a sacro-iliac lesion. The list may be either to the side on which the patient complains of pain or to the opposite side. This listing may change from day to day so that the direction of the list is not an indication as to which sacro-iliac joint is involved.

With the patient seated one must test the reflexes, take care to note the circulation and search for foci of infection. Never overlook the prostatic gland.

With the patient symmetrically placed and lying face up on the examining table, note the length and the circumference of the extremities, the thickness and contour of the joints, and the points of tenderness, especially in sacro-iliac disease. A rectal and prostatic examination is very important.

The straight leg raising test is enlightening. Because the vertebral canal lies posterior to the center of motion of the vertebral column, it is elongated whenever the spine is flexed and shortened by extension. Through the attachment of the dura, this stretching is transmitted to the spinal nerves themselves according to Inman and Saunders. In straight leg raising traction on the sciatic nerve is demonstrable when the leg is elevated only fifteen to thirty degrees from the table. This tension is transmitted through the plexus, but only affects the segmental nerves below the third lumbar, the maximum movement occurring at the fifth lumbar and the first and second sacral. Thus straight leg raising may differentiate involvement of the upper lumbar from lower lumbar and sacral roots.

The Ober sign is helpful.

Xrays are necessary for a complete diagnosis.

COMMON CAUSES OF LOW BACK PAIN

(Congenital malformation)

As a rule the xray interpretation of a narrowed lumbo-sacral intervertebral space is that of a herniated disc. It has been reasoned that only a backward displacement of the nucleus pulposus could account for the thinning of the intervertebral disc. Recently Vinke and White have pointed out that such a condition can be and in the greater number of cases is the result of a congenital malformation. Another explanation of the narrowing of the lumbo-sacral intervertebral space is the disintegration of the nuclear material

incidental to the wear and tear of life. Lipping and sclerosis in this area would further indicate stress and strain. Just how the disc degenerates is a matter of speculation. When the nuclear contents escape into the spongiosa of the vertebral bodies, narrowing would occur without signs of nerve root irritation and very often we may find a so-called Schmorl's node on the xray. These cases usually have no leg signs or reflex changes and usually respond to conservative treatment.

Spondylolistheses may be congenital or acquired. If it is traumatic, reduction is next to impossible.

Sacralization of the transverse processes may cause definite disability.

Traumatic conditions, such as acute sacro-iliac strain, may cause pain in the region of the joint, discomfort while lying on the back, pain while sitting in a hard chair, a listing of the pelvis to one side or the other, and a positive straight leg raising test.

Another cause of low back pain is spondilitis deformans, of which there are two types: the von Bechterew type which involves the spine, the hip joints and sometimes the shoulder joints; and the Marie-Strumpell type which involves the spine alone.

A typhoid spine is still another cause of low back pain.

As stated in the beginning of this paper there is considerable variation in the treatment of low back strain. There are those who feel that conservative measures are adequate in all cases of back ache. There are others who believe that all back aches are caused by a disc which may be entirely or only partially protruding and that these backs should have surgical removal of the disc without trying conservative treatment.

Many men believe that a herniated disc is often times reduced spontaneously or with treatment and sometimes with only rest. It is a well known fact that a long period of rest will in many instances cause a disappearance of suspected disc symptoms. This period may amount to as much as three months and is sometimes aided by the application of traction to the lower extremities. Recently a modified Fowlers position has been tried with considerable success. This treatment is based on the belief that hyperextension of the lumbar spine attained by the Fowler method will open the intervertebral space enough to allow the disc to lose its swelling and spontaneously reduce itself.

Another group of men feel that conservative measures should be tried first and an outline of such treatment is suggested as follows:

The patient is placed flat on his back on a fracture bed, preferably in a hospital. The foot of the bed is elevated. Bilateral Bucks' extension is applied using twelve pounds weight on either side for men and ten pounds for women. Suitable sedation is given. The patient is kept in traction for ten to fourteen days depending upon his progress. A short spica body cast is then applied by means of a modified Goldthwaite frame. When the cast is dry the patient is allowed to walk about. The cast is worn for two weeks and then either a pelvic corset back brace or a sacro-iliac belt is applied, as the case may require. When the patient returns home he is given instructions for placing fracture boards under his mattress. Physical therapy is carried out for a reasonable length of time. If there is an accompanying foot strain a suitable shoe and arch support should be prescribed.

Too long have we been using a stereotyped arch pad or steel plate without giving the physiology and anatomy of the foot careful thought. Dudley Morton has perhaps made the most logical advances in this field and is undoubtedly the foremost authority on the foot. He has given careful thought and study to the way the foot behaves with and without weight-bearing. He describes the foot as a tripod, the legs of which are made up of the heel, the fifth metatarsal head and the first metatarsal head. He has shown by means of charts, graphs and x-rays that when weight is borne on the foot there no longer exists an anterior or metatarsal arch, but that each metatarsal head is in contact with the ground, providing the foot is a normal one. He has proven by statistics that in about 85 per cent of all feet the second toe is as long or longer than the great toe and in these cases the second matatarsal head is in

advance of the first metatarsal head. With this condition present, the second metatarsal head reaches the ground ahead of the first metatarsal head and this throws out of balance the normal tripod mechanism of the foot. In many of these cases the x-rays show an hypertrophy of the shaft of the second metatarsal to about the size of the shaft of the first metatarsal. Morton has devised an arch pad which blocks up the great toe where needed with a resulting relief of symptoms.

With Morton's permission I adopted parts of his arch pad combining it with one I have used for a number of years to achieve a pad which has given my patients more satisfaction and relief from discomfort than any other type of support which I have used. This latter pad has the advantage of giving support to the longitudinal arch and at the same time becomes anchored to the shape of the foot which in turn prevents the pad from slipping forward in the shoe.

When treatment such as described has been carried out it has been found that only a small percentage of cases require more drastic measures. In treating these remaining comparatively few patients, there is a group of men who believe that the low back should be fused, and the reason they give for fusion is that the bone graft inserted while the patient is put in hyperflexion will hold the vertebral bodies apart or at least in a stable position which will prevent further dislocation of the disc and/or will help to not only reduce the protruding disc but to prevent it from future dislocation. This operation has still further reduced the number of cases requiring a radical removal of the disc, and although the fusion operative procedure is not a perfect answer to the problem it apparently has a place in the procedures for treatment of low back strain.

We now have the few remaining cases requiring a laminectomy and the radical removal of the herniated disc.

It is my belief that no harm can come to the patient by treating his low back conservatively. If conservative measures will give him lasting comfort then that patient has avoided an unnecessary operation. But by the same token, if conservative measures fail, then the only fair procedure is an operative one.

Measures used to diagnose a herniated disc have been only partially satisfactory.

It is generally admitted that the introduction of air or poppy seed oil does not help with a diagnosis of a herniated disc in the region of the fourth and fifth lumbar and the first sacral vertebrae, and it is this area that is commonly affected when we have a true herniated disc.

There have occurred some very disappointing sequellae as the result of the injection of lipiodol. There are not only painful neuritic symptoms which can be definitely debilitating, but there is the annoying medico-legal angle to be given careful and hesitant consideration. When one has had one or more of these cases to treat one becomes wary about advising the injection of oil in any case.

If conservative measures will tend to sift out those cases that will get well without operation and at the same time make the legitimate disc operation as clear-cut as possible, then we shall have taken another step toward pure diagnosis.

Postgraduate Institute Cancelled

The Tenth Annual Postgraduate Institute of The Philadelphia County Medical Society scheduled to be held at the Bellevue-Stratford Hotel in Philadelphia, April 10 to 13th inclusive, has been postponed due to the recent request of the Government for the curtailment of all non-essential meetings. It is hoped that this annual meeting may be resumed in the near future.

Finding a person with tuberculosis in the minimal stage means a large saving to the individual and to the taxpayer; for such a person may be treated with little or no loss of time. Usually his disease does not become contagious and, therefore, he does not spread it to others. Furthermore, he, himself, does not fall ill, and therefore, does not require a long period of hospitalization. The Evolution of Tuberculosis by J. A. Myers, M. D., Minneapolis, Minn., 1944.

CLINICAL CASES FROM THE HOSPITALS

COINCIDENCE OF AFFECTIVE DISORDER and CIRCULATORY ENCEPHALOPATHY*

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Farnhurst, Del.

Impure pictures of affective disorder deserve special attention because they are often difficult to interpret and do not lend themselves readily to proper classification. The following case history was selected because of the infringement of the organic factor upon a mental syndrome commonly considered to be essentially functional. Our patient, C. W., was born in Pennsylvania in 1896. Her early development was normal. She had an excellent education. Her temperament was cyclothymic. She was described as sensitive and given to worries. Her mother died when patient was 25 years old. Her death was a great shock to her. She never married. Her occupation was teaching school. She had a severe attack of "flu" during the last epidemic. For many years she suffered from heart trouble and high blood pressure. Ten years ago she took radium treatments for menorrhagias. There was an appendectomy with complications about the same time. Apparently then she encountered her first mental difficulty. Convalescence was slow but uneventful. For the last two years patient complained of pain in her right side and of irregular and occasionally prolonged menstruations. She also had severe headaches and nose bleeds.

Her first hospitalization was from December, 1931, until March, 1942, her diagnosis being acute bacterial endocarditis. In 1942 she entered into a phase of depression with a tendency to self-pitying and feelings of persecution. There was agitation and crying spells. Patient was hospitalized again in June, 1943, after having collapsed while at work. She was uncooperative and seemed unable to answer questions adequately. Her blood pressure was 164/74. Pulse rate was 120 per minute. A slight systolic murmur was heard at the apex. There was no evidence of decompensation. Her mental condition was felt to be compatible with an involutional state. After her release from the hospital she became calmer but lost confidence in herself. Her judgment became seriously impaired. There were several depressive attacks since. One was precipitated by the advice of the school board to resign if she did not return to teaching. She was moody, unable to make decisions, and inclined to magnify her difficulties. A temporary change in environment had a beneficial influence on her mental state; however, several weeks before her admission to the Delaware State Hospital she became very depressed once more. She developed fears, persecutory ideas, and auditory hallucinations. At times she had the idea that everyone was against her and intent upon cheating her. At other times she blamed herself for everything. She shunned people and expressed hate for them. Occasionally she would express suicidal ideas and try to strike herself. Her third admission took place on December 22, 1944.

Physical Status. Patient is a 49-year-old woman of pyknic habitus. Many teeth are extracted. Tongue is somewhat coated. B. P. is 150/90. Heart contour is somewhat enlarged to the left. The first base sounds are unclear. There is a short rough systolic murmur over the mitral valve. Heart action and pulse rate is regular. Lungs are negative. There is an appendectomy scar in the right lower quadrant. Examination of the nervous system is essentially normal. There is marked tongue tremor and general muscular weakness. The tendon reflexes are moderately and equally active. The skin reflexes are generally absent. Xray pictures of skull and chest are normal. The electrocardiogram gives evidence of sino-auricular tachycardia. Some myocardial fibrosis is indicated by isoelectric T waves in the conventional leads. There is one premature auricular contraction in lead III. Laboratory tests reveal slight traces of albumin and some red cells in the urine. The hemogram is essentially normal. Serological and spinal fluid tests are negative. Blood urea nitrogen is 12, blood sugar 98, plasma cholesterol 150 mg. percent. Agglutination tests for typhoid, parathypoid and undulant fever are negative.

Mental Status. On admission patient le

* From the Departments of Medicine and Pathology, Delaware State Hospital.

herself fall from the chair when taken to her room. She had to be assisted when trying to go to bed. She moaned "Oh, what have I done, what have I done?" No information could be obtained concerning her present or past difficulties. She felt annoyed by the examination and was rather uncooperative. She invariably tried to lie in prone position, and said she did not want to be disturbed because she wanted to sleep. Sedation was administered for a few days to abate her restlessness and her noisy reactions. People around her caused her to fret, and she was concerned over her present state. Temporarily she appeared improved mentally. Patient had a psychometric test on January 8, 1945. Her mental age ratings and quotients in the psychometric patterns (J. Jastek) were as follows:

	MA:	Q:
Vocabulary	18-1	121
Oral Reading	17-6	117
General Information	17-0	113
Verbal Comprehension & Reasoning ..	12-4	82
Mental Arithmetic	12-2	81
Recall Series	8-9	58
Picture Analysis & Reasoning ..	7-6	50
Manual Performances	6-9	45

The patient gives the impression of being physically exhausted. She sighs, moans, slouches in the chair, and has to put forth a lot of effort to solve mental problems. She wishes to cooperate but has to take rest periods between tests. Her comment is: "You are a stickler for making me stick to my job." Her complaints of fatigue, nervousness and inability to do things, increase with the duration of the interview.

There are great fluctuations in efficiency of work. At times she appears to be confused, interjecting irrelevant and disconnected remarks into her test answers. She thinks that it is late at night, that she has just baked two cakes, that her folks have stayed with her too long, and that she owns this place. Later she asks where the examiner's residence is and how he got the Frankford Hospital.

She is attentive, however, and responds fairly well to the verbal part of the interview. Her vocabulary, reading and information are distinctly above average. Tests of reasoning and judgment are very difficult for her partly because she is unable to muster enough energy for mental effort and partly because her associations are interfered with by emotional reactions and possibly by hallucinations. She understands the performance fairly well, but is unable to function at the level of her capacity. She forgets the purpose of the tests and becomes stereotyped as the same type of test is continued. All the concrete and concentration tests are seriously defective because of her emotional disturbance. Her hands are subject to coarse tremors, which make skillful manipulations impossible.

The patient is of high average intelligence. She was acutely disturbed during the examination.

Progress. On January 9, 1945, there was a slight elevation of temperature (99 degrees Ax.) Patients' pulse was rapid, 122 per minute. Her blood pressure was 120/80. Patient appeared confused. Her fingers showed tremulous movements. There was nystagmus upon looking to the extreme left side. Sedimentation rate was normal. On January 11, 1945, her blood pressure rose to 200/110. Then she appeared quite confused and talked much at random. Her physical condition deteriorated rapidly. On January 12th she had a sudden circulatory collapse. Her pulse rate was 148, her respiration 32 per minute. There was extreme physical weakness and tendency to somnolence. Patient, however, was able to answer questions when aroused. Her blood pressure was 90/62. She expired on January 17, 1945.

Autopsy Findings. The heart weighs 400 grams. The pericardium is of normal appearance. Section reveals firm, pale muscle with gray fibrous tissue. The mitral valve shows slight thickening. The coronary arteries are patent but slightly thickened. The aorta shows slight atheroma. Lungs: left 200 gms.; right 250 gms. At the left lower base there is a 1 cm. calcified nodule. The lower lobes show patchy atelectasis and dependent congestion and edema. The right shows similar congestion and edema. The abdominal cavity contains watery, gastric juice result-

ing from a rupture in the upper end of the stomach. Otherwise, the abdominal cavity appears negative, except for a small fibrous band between the edge of the right liver and the ascending colon. Pleural cavities are clear. Liver: 1010 gms. The capsule is smooth and presents a peculiar gray purple mottling and suggest lobulation. Section reveals firm tissue, showing irregular fat and faint lobulation. The gall bladder is negative, and the ducts are patent. Spleen: 150 gms. The capsule is smooth. Cut section is firm and fibrous and dark red purple in color. Pancreas and adrenals are negative. Kidneys: each 125 gms. Capsules strip easily. Cut surface appears slightly swollen and congested. Pelvises and ureters are negative. Bladder and genitalia are negative. G. I. tract: There is a massive agonal digestion of the upper end of the stomach. The duodenum is dilated, otherwise negative. The brain weighs 1260 gms. Skull and dura show nothing unusual. The leptomeninges contain a large amount of fluid. The brain shows a marked edema and a slight evidence of cortical atrophy. Cause of death: chronic myocarditis and cerebral edema.

Discussion. The occurrence of repeated depressive phases in this patient's history points to a diagnosis of manic-depressive psychosis, depressive type, although the possibility of an involutional involvement cannot be entirely rejected. The outstanding feature of this case is the development of severe confusion under influence of a striking circulatory imbalance. Patient was known to have suffered with vascular hypertension for many years. Whether her circulatory condition had any influence on her affective mental disorder or not, is somewhat difficult to evaluate in retrospect. It seems, however, certain that the factor of decompensation was essentially responsible for the element of sensorial clouding. It had been a matter of repeated observation in other similarly situated cases that circulatory imbalance with resulting anoxic changes and edema of the brain could be brought in direct connection with progressive sensorial alteration. Comparable conditions may arise in the wake of coronary attacks or of acute circulatory failure with valvular heart disease. It seems possible that the factor of decompensation is of greater consequence for the cerebral activity than the factor of hypertension. On the other hand, vascular hypertension of long standing is bound to create a locus minoris resistentiae and to prepare the field for future complications.

Why Inflict Gobbledegook on the Bereaved?

To the beneficiaries of thousands of young men who have lost their lives in the war and who hold national service life-insurance policies, the Veterans Administration sends a form to be filled out stating how the beneficiaries wish to be paid. There are several options.

We call attention to Option 2, offered to a beneficiary who is "30 years of age or older and is not 69 or older on the date of the insured's death." This is how Option 2 is described on Veterans Administration Insurance Form 1501:

"In a refund life income in monthly installments payable for such period certain as may be required in order that the sum of the installments certain, including a last installment of such reduced amount as may be necessary, shall equal the face value of the contract, less any indebtedness, with such payments continuing throughout my lifetime."

That may be intelligible to an insurance expert. But what, one may ask, does it convey to the average beneficiary who receives the form and is instructed to elect an option? Actually under that technical verbiage are concealed very favorable terms of settlement. Apparently the framer gave little thought to the fact that the form was to go out to, and be read, understood and filled out by, thousands of ordinary people. Option 2 is a sample of bureaucratic language at its worst. —Editorial, *Baltimore Sun*, February 9, 1945.

Less than a generation ago tuberculosis held uncontested leadership among the causes of death; today, its virtual eradication is in sight. It is no longer a fantastic dream for those of us who have been active since the initial stages of the campaign against tuberculosis in America to expect to witness the final stages as well.—Louis I. Dublin.

Delaware Doctors Honored in the Service

Capt. Richard J. Ackart

Capt. Richard J. Ackart, 28, son of Mr. and Mrs. Everett G. Ackart of "Rockmere," Barley Mill Road, Greenville, has won the Bronze Star for outstanding bravery on the field of battle.

The young physician, overseas nearly a year, wrote his wife, the former Miss Anne Steeves of New York, who is living in Wilmington, that his act "was no more than any one else would do, but I just happened to be there."

As far as can be learned, he went to the rescue of a number of casualties from a company undergoing severe enemy fire near Plougastel-Daoulas, Cape Finistere, France, not far from Brest. With shells landing in his vicinity, he treated the wounded and carried some to safety from a road under direct fire.

A member of a medical detachment of the 38th Infantry Regiment of the 2nd Infantry Division of the First Army, Captain Ackart is now in Germany, where he was awarded the medal by Maj.-Gen. Walter M. Robertson, commanding general of the division.

A graduate of Tower Hill School and Staunton Military Academy in Virginia, Captain Ackart took his pre-medical work at Wesleyan University, Middletown, Conn. He then took a 5-year course at Rochester University, including one year of fellowship work. He completed nine months of internship at the University of Virginia Hospital in Charlottesville, Va., and three months at The Memorial Hospital, Wilmington.

He was commissioned as a first lieutenant in September, 1943, and went overseas that December.—*Journal-Every Evening,* December 16, 1944.

The other day we published a picture of Lieut. Richard J. Ackart of near Wilmington, who received the bronze star for heroic action in battle.

The story didn't shed much light on what he had done, but today we received a note from the Army, giving further details:

"First Lieut. Richard J. Ackart on August 25, 1944, was located in the group of about five buildings, designated as Kevern, on the Plougastel peninsula, near Brest, France.

"Lieutenant Ackart was performing his duties of operating a forward collecting aid station.

"Company E, 38th Infantry, was deployed for an attack upon the enemy a few hundred yards from the aid station. Unexpectedly, a continuous barrage of artillery fire plus heavy machine gun and rifle fire fell in Company E's sector and in a period of 25 minutes approximately 30 casualties resulted.

"Lieutenant Ackart, during the time that the enemy fire was falling in Company E's sector, himself gave first aid to 25 men in this same sector. Without a doubt the lieutenant did not concern himself with his own safety. He placed many of these men on his jeep for evacuation to the battalion aid station.

"I am certain," the commanding officer writes, "that First Lieutenant Ackart by personally going to the wounded and braving the fire saved the lives of at least five soldiers and minimized the danger and discomfort of at least 20 others."—*Journal-Every Evening,* December 26, 1944.

Capt. Richard J. Ackart of Rockmere, husband of Mrs. Anne S. Ackart, was recently awarded the Oak Leaf Cluster of his Bronze Star Medal.

The award was made for gallantry in action on September 7 of last year. At that time, Capt. Ackart, without regard for personal safety, knowingly exposed himself to intense artillery fire in order to administer aid to a wounded soldier.—*Wilmington Sun. Star,* March 18, 1945.

Heroism in action against the enemy has won citations for a captain in the medical corps.

The second oak leaf cluster for his Bronze Star medal has been awarded to Capt. Rich-

ard J. Ackart, 28, son of Mr. and Mrs. Edward G. Ackart of Rockmere, Barley Mill Road.

Captain Ackart received his second oak leaf cluster for the Bronze Star Medal on February 8. The medal for heroic action in operations against the enemy was presented for his work in rescuing a number of casualties under severe enemy fire during the fighting at Brest. Another award was for action on February 7 when he exposed himself to intense artillery fire in order to administer aid to a wounded soldier.

The second oak leaf cluster was awarded the Wilmington physician during the fight to hold back the German counter-attack in Belgium. He is attached to the Second Infantry Division which then was fighting around the town of Rocherath, Belgium, with their mission to hold the enemy and prevent them from dominating an important network of roads that were to the east of the town. At this time the battalion aid station for the second battalion, 38th Infantry, was situated in the town.

The citation which accompanied the second cluster went on to tell the story as follows:

"Company E was fighting on the eastern outskirts of town and suffering many casualties from machine gun and aimed small arms fire. While working around the aid station, several men came to the aid station and told Captain Ackart that litter bearers were needed very badly in E Company's sector. It was impossible to send out any more litter bearers because they were all with the assault companies.

"Noting the lack of litter bearers, Captain Ackart and one of his enlisted personnel grabbed a litter and went to Company E's sector. He was immediately stopped by the company commander and was told not to go any farther forward as the enemy had that sector under intense machine gun fire. Disregarding this advice, Captain Ackart and his helper went forward, creeping and crawling to a point less than 100 yards from the enemy tank machine gun fire.

"It was at this point that one of the officers in the battalion was mortally wounded, but despite this murderous fire about him, Captain Ackart and his aid man unnecessarily exposed themselves to this fire from the enemy in order to evacuate this officer. Alone, these two men, with but a slim chance of getting back to safety themselves, loaded this officer on the litter and miraculously got him back to the rear. Such gallantry, heroism, and utter disregard for his own personal safety reflect extreme credit upon Captain Ackart and the military service."

Captain Ackart has been overseas 15 months. He is serving with the First Army. —*Journal-Every Evening,* March 20, 1945.

Lieut.-Col. Joseph M. Barsky

Lieut.-Col. Joseph M. Barsky, Medical Corps, U. S. Army, resident of Wilmington who for 20 years was medical officer of the former 198th regiment of the Delaware National Guard has been awarded the Legion of Merit by direction of the President.

Colonel Barsky, veteran of many months' service in the Pacific, is now stationed at the Army Medical Detachment at the Mayo Clinic in Rochester.

The citation states the Legion of Merit is for exceptionally meritorious conduct in the performance of outstanding services as force sanitary inspector at an island base in the Pacific from Feb. 15, 1942, to Feb. 18, 1943.

"He planned and organized sanitary measures for the protection of the base. He organized a system of dispensaries to cover the great area occupied by the many widely separated units.

"He supervised sanitary measures for the command and coordinated them with those of the civilian population. His success and accomplishments are measured by the low sick rate of the command. His leadership and force in sanitary control raised the standards in the base and saved many men to the command."

Word of the award was received from the War Department today by Brig.-Gen. Paul R. Rinard.

"It is a well-deserved award," General Rinard said. "The sick rate of the regiment while Colonel Barsky was the principal medical officer was extremely low. The regiment was fortunate to have had a man of his ability and rank with it. His rank called for a more

responsible position but he was connected with the regiment and went to the South Pacific with it."

Colonel Barsky was commissioned an officer in the Medical Department of the Delaware National Guard on July 7, 1921, and was in command of the medical detachment of the regiment from the time of the organization of the regiment.

He saw services in France in World War I, entering the service at the time as a first lieutenant in the Medical Corps, Aug. 10, 1917. He was promoted to captain Jan. 7, 1918, and served with the 305th Sanitary Train, 80th Division, at Fort Oglethorpe, Ga., and Petersburg, Va. He served overseas in France from May 25, 1918, to May 31, 1919, and was discharged June 10, 1919.

Colonel Barsky left Delaware with the 198th Coast Artillery in September of 1940, and was with the regiment at the various camps in this country until it left for the South Pacific in February of 1942.

He served with the Delaware regiment on Bobcat Island and other islands in the South Pacific and returned to this country in April last year. For a while he was on duty at the O'Reilly General Hospital at Springfield, Mo., went to the Mayo Clinic, Fort Leonard Wood, Kan., and then to Cheyenne, Wyo.—*Journal-Every Evening,* April 4, 1944.

Capt. Donald W. Cheff

Capt. Donald W. Cheff, 32, former practicing physician in Wilmington, has been awarded the Bronze Star for heroic achievement in action during the Leyte campaign.

He is company commander of the medical battery of the famed 77th Infantry Division, which also participated in the invasion of Guam.

Captain Cheff, whose wife, Mrs. Elizabeth Cline Cheff, and their two children, Teddy and Roberta, are living with her parents in Waynesboro, Pa., interned at Delaware Hospital here. For a year and a half he was resident physician at Brandywine Sanatorium.

He was commissioned in June, 1942, one of the first Wilmington physicians to enter the service.

No details concerning the action for which he was decorated have been announced as yet by the War Department.—*Journal-Every Evening,* March 16, 1945.

Maj. Douglas T. Davidson, Jr.

Maj. Douglas T. Davidson, Jr., of Claymont, regimental surgeon with the famous 101st Airborne Division which jumped into France on D-Day and later into Holland, narrowly escaped death at Bastogne in the recent German breakthrough into Belgium. A German shell hit a barn which the Americans were using for an aid station on Dec. 31. The medical officer, who had served a round-the-clock trick when the fighting was heaviest, was asleep in the barn when the shell hit. Stone dislodged by the shell fell on his cot, breaking his right leg. Shrapnel wounded him in the left leg. A piece of shrapnel pierced five blankets and his outer clothing, stopping at the wallet which he wore in his left jacket pocket just over his heart. He suffered other minor wounds.

He is now hospitalized in England.

In a recent letter to his parents, Dr. and Mrs. Douglas T. Davidson of Claymont, he said that he was coming along fine and being "spoiled" at the hospital with the care he is receiving.

For an exploit on D-Day when, with use of college German, he persuaded the Nazi commanding officer in the Normandy town of Carentan to make a truce of an hour and a half for the evacuation of wounded, Major Davidson was awarded the Silver Star. His entire unit received the Presidential Unit citation for its part in the D-Day operations.

Before going overseas in September, 1943, the medical officer had been cited for his part in testing D-rations with the paratroopers at Fort Benning, Ga., when he marched with the troops and endured hardships entailed in the test.

He entered the Army Medical Corps as a first lieutenant in March, 1941. He was first stationed at Fort DuPont. Later he went to Fort Benning and Fort Bragg.

His marriage to the former Miss Lucille Hathaway of Andover, Mass., was a war romance. His wife was a civilian dietitian at

Fort Bragg while he served there. Their marriage took place in the paratroopers chapel at the post Oct. 14, 1942. They have a small son, Douglas T. Davidson III, whom the soldier has never seen.

Major Davidson attended the Claymont public school and was graduated from Wilmington High School. He received his A. B. degree from Lehigh University and his degree of doctor of medicine from the University of Pennsylvania Medical School. He spent four years as an interne and in special duty in pediatrics at Johns Hopkins University and the University of Pennsylvania. He began his practice in Wilmington in September, 1940.—*Journal-Every Evening,* January 25, 1945.

Lieut.-Comm. Gerald O. Poole

A Delaware medical officer with the Navy has been cited by Admiral Harold R. Stark for effective measures to combat large-scale food poisoning affecting more than 500 officers and men at his advance amphibious base.

The medical officer is Lieut.-Comm. Gerald O. Poole of 100 North Road, Lindamere.

Commander Poole averted a serious delay in operations at his base with the U. S. Naval Forces in Europe when the food poisoning outbreak occurred. He analyzed the food to discover the origin of the trouble, and directed the treatment of afflicted personnel so that they could return to duty promptly.

The outbreak occurred shortly before D-Day, when prolonged illness among personnel of the base and of the small boats operating from it would have seriously hampered invasion preparations.

Text of the commendation letter follows:

"Your performance of duty prior to and during the invasion of France on June 6, 1944, has been brought to my attention. As senior medical officer at a U. S. Naval Advanced Amphibious Base your professional skill was responsible for averting a serious delay in training programs and preparations for the invasion. When, shortly before D-Day, food poisoning broke out involving in varying degrees some 500 officers and men of both base and small boat personnel, your untiring devotion in caring for these men and your thorough analysis of the cause of the outbreak enabled all personnel to resume their duties quickly.

"For your professional skill and your devotion to duty, you are hereby commended. This commendation carries with it the privilege of wearing the commendation ribbon."—*Journal-Every Evening,* December 13, 1944.

Maj. Sylvester W. Rennie

For 86 hours without rest or sleep and in the heat of the South Pacific, Maj. Sylvester W. Rennie, Wilmington physician, gave surgical care to badly wounded veterans of Guadalcanal, coping with situations that seemed hopeless and working with limited equipment.

For this outstanding service, Major Rennie, whose home is at 1201 Delaware Avenue, has been officially commended by his commanding officer, Maj.-Gen. R. G. Breene, U. S. A.

Major Rennie, former staff member of the Delaware Hospital, was one of the four surgeons who worked last January continuously for more than three and a half days preparing 140 wounded soldiers for evacuation by troop ship for the United States.

The story is told in the official letter of commendation which Major Rennie has sent his wife.

The letter, dated last November, follows:

"Your performance of outstanding services has been noted by me, and the following commendation is extended in official recognition thereof;

"Commendation: Capt. Sylvester W. Rennie, Medical Corps, Surgical Service, 27th Station Hospital, for outstanding conduct during the week of Jan. 20 to 27, 1943.

"During the evacuation of wounded troops from Guadalcanal through the 27th Station Hospital this officer displayed extraordinary ability as a surgeon and extreme resourcefulness in coping with situations which at the time, due to limited equipment, seemed hopeless.

"By his untiring energy and devotion to duty he set an example for the enlisted men and was one of the four surgeons who went without rest or sleep for 86 hours.

"As a result of the cooperation and skill of this officer, over 140 badly injured soldiers were given expert surgical care.

"Wounds of the extremities, chest and abdomen were all operated upon successfully and most of these men were evacuated by troop ship to the United States for further care within seven days."

In a letter to Ellwood A. Unger, chief anesthetist at the Delaware Hospital, Major Rennie revealed he had been placed in command of a base hospital.

Major Rennie, who was promoted to his present rank in August, 1944, entered the Army in June, 1942, and went overseas in October of that year. He received his degree at the University of Pennsylvania Medical School and practiced in Wilmington for seven years.—*Journal-Every Evening,* January 1, 1944.

Capt. Harold P. Sortman

Capt. Harold P. Sortman, Wilmington physician, of 2718 Washington Street, has been awarded the Silver Star for gallantry in action.

According to the citation he left a sheltered area during a battle in Sicily and at the risk of his life, aided wounded and supervised their evacuation. He is thought to be the first Delaware physician cited for bravery on the battlefield in this war.

The incident took place on July 12—two days after the Allies invaded the Italian island. The citation, signed by Lieut.-Col. Leonidas Cavalas, adjutant general, read:

"For gallantry in action in the vicinity of Lup, Sicily, July 12, 1943. Captain Sortman, with complete disregard for intense enemy artillery fire, left a sheltered area position and entered an area under bombardment so that he might better aid the wounded and supervise their evacuation. His noble and unselfish action reduced suffering and saved the lives of a number of men."

Captain Sortman has been overseas since last February. He entered the Army in June, 1942, and after completing basic training at Carlisle Barracks, Pa., and in Texas, was sent directly to Africa. He remained there until the Sicilian invasion, when in a letter to his wife, he wrote: "All hell broke loose and the fighting was terrific."

At the same time he received the citation, Captain Sortman was still a first lieutenant, being promoted to his present rank in September.

A graduate of the Wilmington High School and the University of Delaware, Captain Sortman, before entering the Army, practiced here for almost seven years. He received his medical degree from Jefferson Medical College, Philadelphia, and interned at the Delaware Hospital.

He is attached to an infantry medical detachment. His wife lives with their daughter, Doris, on Washington Street. Captain Sortman is the son of Mr. and Mrs. I. H. Sortman, 1206 Market Street.—*Journal-Every Evening,* November 3, 1943.

Capt. Shermer H. Stradley, Jr.

Capt. Shermer H. Stradley, Jr., Medical Corps, 2005 Monroe Place, was awarded the Legion of Merit in November in ceremonies in connection with the Sixth War Loan at the Public Building. Col. Randolph Russell of Fort DuPont made the presentation.

The citation commends Captain Stradley for "exceptionally meritorious conduct in the performance of outstanding service in North Africa, Sicily and Italy from March 13, 1943, to Aug. 26, 1944.

"From the activation of the battalion, he organized, trained, and constantly supervised the Medical Detachment including regular and emergency aid men in all companies. The excellent state of general health and extremely low time lost for disease and malaria in highly infected areas, kept the effective manpower of the battalion at such a high percentage that the unit was able to lead or equal all similar transportation battalions in ton-miles of essential war supplies through three different campaigns.

"Captain Stradley attained these results through constant study of newest methods, through personal and energetic inspection and supervision of all health and sanitary measures, by constant instruction and supervision of preventive measures and through the building up of complete confidence in all the personnel of the battalion. His actions are in keeping with the highest traditions of the United States Medical Corps."

He entered the service in June of 1942, after eight years practice in Wilmington.

After serving at Camp Stewart, Ga., he went overseas, serving in England, Africa, Italy, and the invasion of Southern France. He wears seven combat stars on his campaign ribbons.—*Morning News,* November 25, 1944.

Maj. Henry H. Stroud

Not satisfied with hearing second hand the symptoms suffered and ailments developed by airmen in combat, Maj. Henry H. Stroud, 1018 West Seventh street, went on several operational missions over enemy territory with members of the 384th Bomb Group, one of the veteran B-17 Flying Fortress Units of the Eighth Air Force on the European aerial front. Major Stroud is head surgeon for this group.

The Bronze Star Medal in recognition of his "meritorious service" with this heavy bombardment unit has been awarded the medical corps officer who was a physician at the nylon plant of the DuPont Company at Seaford before going into the Army in April, 1941.

Overseas for the past 20 months Major Stroud is head of a section which is considered one of the most efficiently operated medical departments in his organization's division which embraces a number of bomber bases.

Among his assignments in the United States before going to England were Fort Tilden, N. Y., Walter Reed Hospital, Washington, and Langley Field, Va.

The officer is a graduate of Wilmington High School, the University of Delaware and Jefferson Medical College. He interned at Delaware Hospital here.

His wife, the former Miss Eleanor Barlow, and their two small daughters, Elisa, three years old and Eileen, 17 months old, are living with her parents for the duration. Major Stroud is the son of Mrs. Edith L. Stroud of 1803 Market Street.—*Journal-Every Evening,* January 25, 1945.

The Drive, a Village and a Centenary

As American troops of the 9th Army approached Dusseldorf from the west they must have occupied, or bypassed, the village of Lennep, which is located in that area. It is unlikely that any of them know that Lennep is the birthplace of a scientist whose discovery will probably play an important part in the proper healing of wounds they may receive in combat.

It was in Lennep, exactly a hundred years ago next March 27, that Dr. Wilhelm Konrad Roentgen, discoverer of Roentgen rays, was born. The discovery was made on November 8, 1895, at the University of Wurzburg, where Roentgen headed the institute of physics. It was given to the world in Roentgen's paper, "Ueber eine neue Art von Strahlen," which was read to the Physical-Medical Society of Wurzburg on Christmas night of the same year.

Roentgen's enthusiastic colleagues insisted that the rays be named after the discoverer; but, because at that time he did not know their real nature, Roentgen preferred to call them Xrays. His later research and that of other scientists revealed that the waves are actually electro-magnetic radiations which differ from light waves in having much smaller wave lengths and much greater frequency. Their great value lies in the fact that they can penetrate substances opaque to light, and that in general the greater the density of the substance the greater its opacity to the rays. Thus while the rays pass through the flesh they are stopped by the bones. In short, to employ nontechnical terms, Xrays have made it possible to see inside the body without recourse to surgery.

Furthermore, it was soon noticed that the Xrays have a powerful effect upon the skin, and this has led to investigation into its healing properties in connection with various skin diseases. So in the intervening years Roentgen's discovery has been greatly developed until it has come to play a vital part in both medical diagnosis and treatment.

But medicine is only one of many fields into which Xrays have entered. They are now generally employed in industry and have also led to revolutionary theories in physics which have engaged the minds of Millikan, Einstein, Eddington, Jeans and other distinguished scientists.

It is distressing to reflect that the centenary of a German scientist who did so much for mankind should, through the inhuman philosophy of the Nazis, be celebrated with slaughter and the clash of arms.

—Editorial, *Baltimore Sun,* March 6, 1945.

Editorial

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DOES LABOR WANT SOCIALIZED MEDICINE?

Some labor leaders, and their organizations, have gone on record as favoring a national compulsory health insurance program, such as was embodied in the Wagner Bill of a couple of years ago, which will be reintroduced, we surmise, in the near future. No matter how the original bill is doctored up, and it has been doctored some, we are convinced that the thinking people will not want it, least of all the labor people who can see through it.

The *Labor Union,* published at Dayton, Ohio, is the largest labor weekly in the U. S. A., with a national circulation well above 150,000. We reprint below the first of two editorials from that influential paper, as a sort of introduction; the second, a splendid argument *against* the Wagner Bill, follows next month.

A MOMENTOUS STEP

In November, 200 delegates, representing insurance, industry and the medical profession, met under the auspices of the *National Physicians Committee* to discuss immediate extension of medical care, group insurance and employer-employe cooperation.

The uniqueness of such a conference has generally escaped public notice, as is usually the case on occasions of historic significance. For centuries the doctors have sought to solve the social problem of how to attain the widest distribution of medical care, practically unaided. They gave their talents freely to the impoverished. They urged people in nation-wide campaigns to consult physicians when needed, and pointed out that financial adversity was no stumbling block to securing prompt attention.

But all of this was not enough, so the doctors turned to promoting prepaid medical care plans that today reach millions of persons. The recent meeting of the doctors with industry is a momentous step toward making the miracle of modern medicine even more easily available to all American homes and families. Now, as the doctors point out, it is up to industry to do its part in every way possible. Enlightened business leaders can help immeasurably in the establishment of sound health insurance programs. Surveys have shown that the people are ready and anxious to support voluntary group insurance wherever it is made available to them.

By cooperation in this movement, industry and the medical profession are proving their progressiveness and spiking the claims of those who believe that government must care for the people by compulsory measures—at the expense of the people's liberty.

COLD VACCINES CONDEMNED

None of the so-called vaccines for the prevention of the common cold that are now available have been proved to be of any value, none can be recommended for industrial groups or for individuals and their uncontrolled use should be discouraged, it is declared in a status report on "The Use of Vaccines for the Common Cold," authorized by the Councils on Pharmacy and Chemistry and Industrial Health of the American Medical Association and published in the December 2 issue of *The Journal of the Association.*

Commenting on the report, *The Journal* says:

"In spite of the overwhelming evidence on this subject, some pharmaceutic firms continue to engage actively in the promotion and sale of various 'vaccines' for the prevention of colds. This constitutes an irresponsible attitude toward the public and the medical profession, no better than most of the claims regarding the alleged benefit to colds from vitamins and proprietary nostrums. The air waves and the drug counters are crowded with so-called preventives or cures of these types, which do not serve any recognizable purpose other than to lighten the public purse."

The report on cold vaccines says that "The symptom complex usually termed the common cold is a frequently recurring source of distress and disability to most residents of temperate climates. . . . In recent years so-called vaccination is the method which has received the greatest amount of study as a possible means of preventing or controlling the ravages of this condition. If any available vaccine has demonstrable value for the prevention of the common cold, or aids in its control, it would be a boon of tremendous value, and the method should be more widely utilized in practice; if, on the contrary, the vaccines which are available are not of value in any of these respects, then many members of the medical profession are being misinformed and the public is spending large sums uselessly.

"The evaluation of the evidence for any prophylactic measure against the common cold is complicated by many factors which do not lend themselves readily to controlled investigation: all colds may not and probably do not have the same virus or bacterial causation; the frequency and symptomatology of colds in the community vary widely from year to year; the common cold is so mild that its victims rarely come under the direct observation of a physician during the period of invalidity; there are great differences in how people describe the severity and duration of their own colds, and consequently most reports on colds are based on unreliable subjective accounts. . . .

"Vaccines designed to reduce the incidence or severity of the common cold have been administered hypodermically, by the swallowing of capsules (so-called oral vaccine) and more recently by local application to the mucosa of the upper respiratory tract by means of sprays. The constituents of the vaccines used have varied widely, but most have been made up of heat or chemically killed organisms obtained originally by culture from the upper respiratory tract and combined in various proportions. The lack of agreement on the most desirable route of administration and the even greater lack of agreement on the types and proportions of organisms to include in the vaccines and on the methods of killing and preparing them are in themselves arguments against any scientific standing for this procedure. . . ."

In conclusion, the report says that "Decisive evidence of the value of any vaccine is not forthcoming, and the weight of careful studies clearly indicates that none of the vaccines now available when administered by the routes advised have proved value. Vaccines for colds cannot be recommended for routine administration to industrial groups or to individuals. At present any attempt to prevent colds by the use of vaccines must be recognized as purely experimental and any proposal to administer such a vaccine, if given at all, should take this into consideration. As in all measures of a purely experimental nature, the uncontrolled use of any cold vaccine now available should be discouraged. Industrial physicians are under particular obligation to employ cold vaccines, if at all, only under the most rigidly controlled conditions and to report their results so that useless preparations can be promptly eliminated and further progress made."

OBITUARY

Bernard J. McEntee, M. D.

Dr. Bernard J. McEntee, 58 years of age, a practicing physician in Wilmington for 32 years, died on February 24, 1945, at St. Joseph's Hospital, Lancaster, after several months' illness of a chronic chest condition. He was one of the founders of St. Francis Hospital of this city and the oldest member of its staff. He was a member of the New Castle County Medical Society, the Medical Society of Delaware and the American Medical Association.

Dr. McEntee served as a captain in the first World War and was overseas two years. He was gassed and it is believed that his final illness resulted from that experience.

He was a son of the late Mr. and Mrs. Thomas McEntee, of Steelton, Pa., and was born in 1886, and was graduated in medicine from the University of Pennsylvania in 1911.

He is survived by a brother, the Rev. Thomas L. McEntee, pastor of St. Ann's Church, Lancaster, Pa., and a sister, Sister Mary Bernard, a member of the Daughters of Charity, stationed in Albany, N. Y.

The funeral was held March 7, 1945, in St. Ann's Church, Lancaster, Pa. Interment was in the family lot in Mt. Calvary Cemetery, Harrisburg, Pa.

Scholarships in Physical Therapy

Scholarships for training in physical therapy under the $1,267,600 program of the National Foundation for Infantile Paralysis are available immediately for classes commencing in June and July, Basil O'Connor, president of the National Foundation announced recently.

As a result of the increasing use of physical therapy in the treatment of infantile paralysis and other diseases, and because of the acute shortage of trained personnel, the National Foundation is offering these scholarships for nine to twelve months' courses in approved schools of physical therapy. The scholarships will cover tuition and maintenance in accordance with the student's needs.

"There are opportunities at the present time for the full employment of 5,000 additional physical therapists throughout the nation," Mr. O'Connor said. "However, present day teaching facilities at approved schools can accommodate approximately only 1,000 students. Teaching facilities at these schools will be increased by additional teachers obtained through the National Foundation's teaching fellowships so that the training capacity of the schools can meet the full requirements of the profession."

Pointing out that there are only 2,500 qualified physical therapists in the United States, with more than half of them in the armed services, Mr. O'Connor said it would require several years to train the additional thousands of physical therapists needed.

"The postwar possibilities in this field are almost without limit. Physical therapy is a vocation in which there is no overcrowding and the scholarships offer opportunities for professional careers," Mr. O'Connor emphasized.

The training program will be carried out with the assistance of a special committee under the chairmanship of Dr. Irvin Abell, of Louisville, Ky., chairman of the Board of Regents of the American College of Surgeons.

Candidates for National Foundation scholarships must have two years of college, including biology and other basic sciences, or be graduates of accredited schools of nursing or physical education. Applications should be made to The National Foundation for Infantile Paralysis, 120 Broadway, New York 5, N. Y., or to the American Physiotherapy Association, 1790 Broadway, New York 19, N. Y.

BOOK REVIEW

The Marihuana Problem in the City of New York: Sociological, Medical, Psychological and Pharmacological Studies by the Mayor's Committee on Marihuana. Cloth. Pp. 220. Price, $2.50. Lancaster, Pa.: Jacques Cattell Press, 1944.

In January, 1939, Mayor La Guardia appointed a special committee to study the marihuana problem in New York City. The present publication is a summary of the various activities of that committee in investigations of the sociological, psychological and pharmacological aspects of the smoking of marihuana.

The committee apparently proved to its own satisfaction that the dangers from marihuana were greatly exaggerated so far as the city of New York was concerned and that, in general, marihuana does not produce a true addiction nor serious psychological disturbance. It is for the reader to decide whether, upon such evidence as is presented, he accepts these conclusions. This reviewer agrees completely with the Mayor who, in a foreword, states:

"I hasten to point out, however, that the findings are to be interpreted only as a reassuring report of progress and not as an encouragement to indulgence."

1789—MEDICAL SOCIETY OF DELAWARE—1945

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